

## Door Fact Sheet

### Introduction

The next weakest noise-reducing element in a home after windows is the doors. If you can feel a draft coming through a door or see light around the edges, then noise is coming in, too.

Fortunately, doors can be treated in a variety of ways just like windows. Like windows, noise enters the home through a door via two paths - air infiltration and vibration of the door material. Generally speaking, the heavier the door the more resistant it is to transmitting noise (vibration) into the home. This assumes that the door is installed properly and has a good tight weather seal.

If your existing door(s) are in good shape, then the first item of consideration is how well the Prime door seals when closed. It is easy to inspect the weatherstripping around the door and door casing. If the weatherstripping is tattered, missing, or if you can see light around the door when closed, it needs to be replaced. This is a simple, and inexpensive method to reduce noise.

One of the most effective methods of reducing noise entering through exterior doors is to replace both the Prime and Storm with high quality doors, specially made to resist the transmission of sound. Prime doors can be obtained in solid wood, or steel or fiberglass with a foam core. Storm doors are typically constructed using special sound resistant glass and foam core doorframes. The glass will be mounted in its frame using tight-fitting gaskets that provide a good seal and reduce the chance of vibration. The glass frame also needs to be securely mounted to the door frame in the same manner. Ideally, both doors need to be sealed to the door frames using magnetic weather strips.

Minimizing the amount of glass in the prime door typically adds to the noise reduction properties of the door. If you choose a Prime door with side lights, you should have side light storm windows installed with them.

### What can I do for my home?

There are several steps that a homeowner can take to reduce aircraft noise that is transmitted by the doors. The cost to make improvements to door openings can vary from a few hundred dollars to a few thousand dollars. Costs will also depend upon several variables:

- The type of home you live in
- The number of doors that need to be replaced
- Who does the work (hiring a contractor is more expensive than doing it yourself)
- The quality of the installation of the doors to insure good seals
- The brand of products you choose

*Remember, your ear cannot hear a change in noise of less than 3 dB.*

Action	Cost	Acoustic Benefit
Replace weather-strips around Prime door	Low	Minimal (<3 dB)
Add new Storm door to existing Prime door	Moderate	Moderate (3 - 5 dB)
Replace all Prime doors with new doors <sup>(a)</sup>	Moderate to High	Moderate (3 - 5 dB)
Replace both Prime and Storm doors with new acoustic doors	High	Good (>5 dB)

*(a) - Due to the wide range of products available in the replacement window marketplace, it is difficult to provide exact data for acoustic benefit.*

### What should I do next?

Although the airport cannot recommend specific contractors or suppliers of materials, we encourage you to shop around and ask questions. If you are interviewing contractors, you may want to consider asking:

- What type of insurance do you carry?
- What brand of product will you be using?
- Ask to see the Acoustic Test results of any products to be used, or contact the manufacturers directly and ask for this data
- What is the manufacturer's warranty?
- What is the contractor's warranty on the work?
- Who will be my daily contact on the job?
- When can you start the work, and how long will it take?
- What are my responsibilities during the project?
- Is the price quote what I will actually pay or an estimate?
- Always ask for references and check them out!